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(54) Dishwasher pump

(57) A dishwasher pump provided with a heating element, comprising a volute (2) the interior of which houses an impeller (4) rigid with the shaft of an electric motor, the volute (2) being provided with an intake conduit (6) and delivery conduit (8) and being closed by a baffle (10) provided with a hole (12), characterised in that in a position overlying said baffle (10) there is provided a disc (16) which feeds the water, entering through the intake conduit (6), towards the lateral surface of the volute with which the heating element (22) is externally rigid.

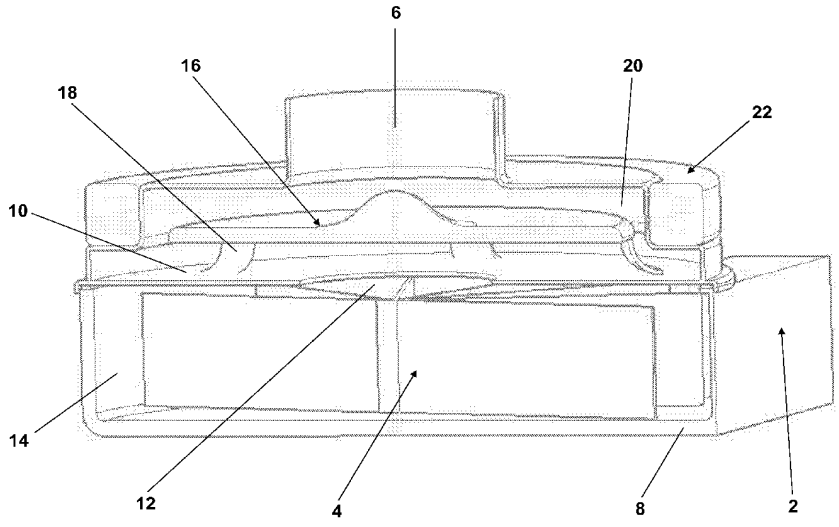

FIG. 1

EP 1 787 567 A2

Description

[0001] The present invention relates to a dishwasher pump provided with a heating element.

[0002] Dishwasher pumps provided with a heating element are known.

[0003] A first known type of pump comprises essentially a volute housing an impeller operated by an electric motor, and a resistance element housed inside the volute.

[0004] In another type of pump the resistance element is positioned on the outer perimeter of the volute.

[0005] An object of the invention is to provide an improved pump presenting increased heat transfer between the water and the resistance element, while maintaining at a minimum, or reducing, the pressure drop undergone by the water in passing through the pump.

[0006] This and other objects which will be apparent from the ensuing description are attained according to the invention by a dishwasher pump provided with a heating element as claimed in claim 1.

[0007] The present invention is further clarified hereinafter with reference to the accompanying drawings, in which:

Figure 1 is a perspective sectional view of a dishwasher pump, and
Figure 2 shows a variant thereof.

[0008] As can be seen from the figures, the dishwasher pump according to the invention comprises substantially a volute 2 internally housing an impeller 4 rigid with the shaft of an electric motor (not shown in the drawings).

[0009] The volute 2 is provided with an intake conduit 6 and a discharge conduit 8, and is closed by a baffle 10 provided with a hole 12 which communicates with the chamber 14 housing the impeller 4.

[0010] In a position overlying said baffle 10 there is a diffuser disc 16 provided with fingers and housed in a chamber 20 to which the pump intake conduit 6 is connected.

[0011] Said chamber presents a substantially stepped perimetral configuration to externally support an annular resistance element 22.

[0012] The pump of the invention operates in the following manner.

[0013] Water enters through the intake conduit and grazes the disc 16, to then descend below the volute closure. During its descent the water comes into contact with the annular surface on which the resistance element 22 rests, and becomes heated. The fingers 18 give a suitable rotary movement to the water descending towards the impeller, to facilitate the handling of the flow by the impeller 4.

[0014] The water then enters the conduit 12 to be then urged by the impeller 4 into the delivery conduit 8.

[0015] In the embodiment shown in Figure 2, the disc 16 is rigid with the shaft 24 with which the impeller blades are rigid. In this manner the water entering through the intake conduit 6 and depositing on the disc is urged by centrifugal force against the annular wall on which the resistance element 22 rests, to undergo heating. It then grazes the disc, from which it descends through the hole 12 to enter the chamber 14 of the volute 2 and be then circulated towards the delivery.

[0016] The disc gives a suitable rotary movement to the water descending towards the impeller, to facilitate the handling of the flow by the impeller 4.

[0017] From the aforegoing it is apparent that the dishwasher pump of the invention presents numerous advantages, and in particular:

- it presents increased heat transfer between the water and the resistance element,
- it decreases pressure drop.

Claims

1. A dishwasher pump provided with a heating element, comprising a volute (2) the interior of which houses an impeller (4) rigid with the shaft of an electric motor, the volute (2) being provided with an intake conduit (6) and delivery conduit (8) and being closed by a baffle (10) provided with a hole (12), **characterised in that** in a position overlying said baffle (10) there is provided a disc (16) which feeds the water, entering through the intake conduit (6), towards the lateral surface of the volute with which the heating element (22) is externally rigid.

2. A pump as claimed in claim 1, **characterised in that** the diffuser disc (16) is provided with dispersion fingers (18).

3. A dishwasher pump as claimed in claim 1, **characterised in that** the diffuser disc (16) is rigid with the impeller shaft.

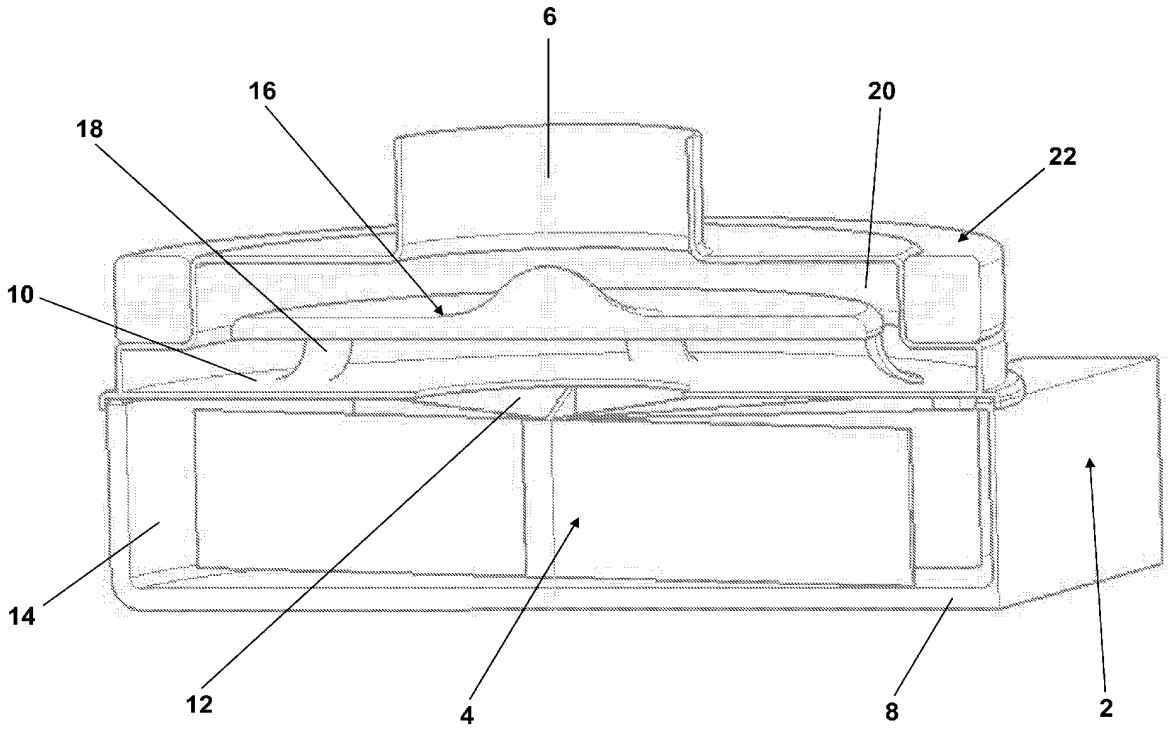

FIG. 1

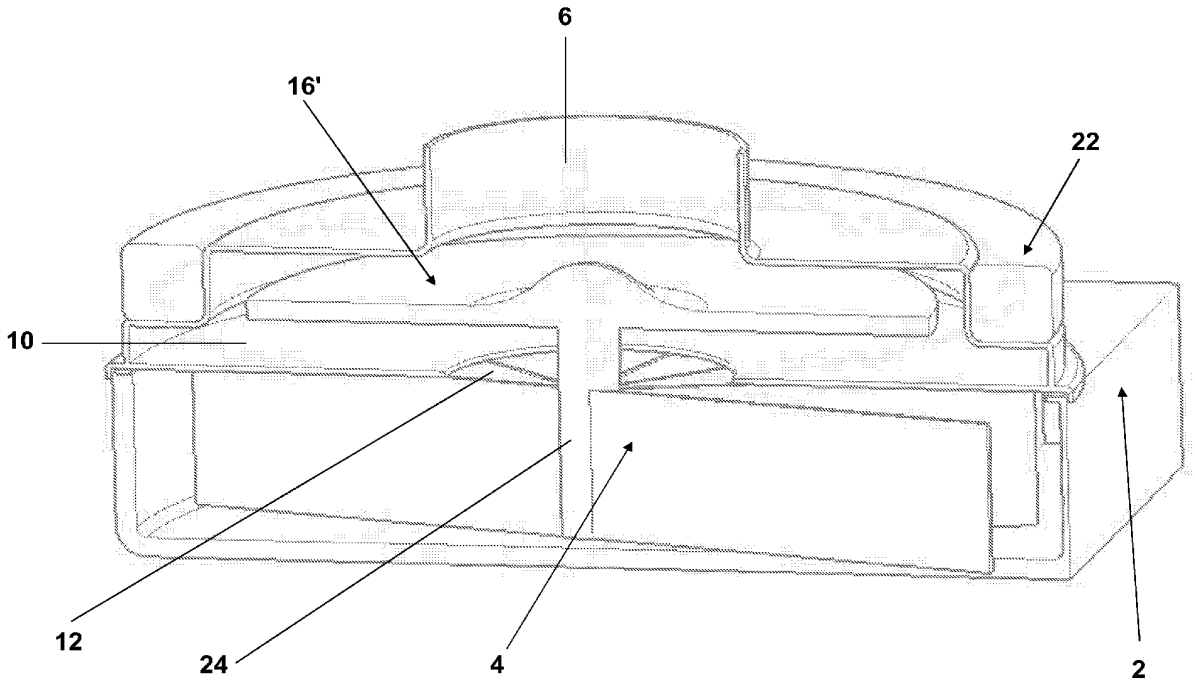

FIG. 2